

TRANSACTIONS

OF THE

CHICAGO SURGICAL SOCIETY.

Stated Meeting, May 2, 1904.

The President, E. WYLLYS ANDREWS, M.D., in the Chair.

CARCINOMA OF THE CHEEK.

DR. NICHOLAS SENN presented a patient upon whom he had recently operated for an extensive carcinoma involving the left cheek. When admitted, the left cheek was the seat of an extensive swelling, in the centre of which was a perforation which communicated with the cavity of the mouth. Sections of curetting under the microscope showed it to be a case of unusually malignant form of carcinoma that had its starting-point somewhere about the alveolar process on the left side and involved the entire cheek. There was extensive regional dissemination, although the disease had lasted only three or four months. The submaxillary lymphatic glands were involved. In the absence of glandular involvement along the sheaths of the vessels of the neck, a radical operation seemed justifiable. The entire cheek was removed, leaving the angle of the mouth and a small portion of the cutaneous covering of the cheek. The periosteal covering of the lower jaw on the corresponding side was sacrificed together with the submaxillary gland and the whole chain of lymphatics. An enormous defect remained, which required a very extensive plastic operation to cover in. Owing to quite an extensive alopecia behind the frontal region, it was possible to utilize in this case a temporo-frontal flap. A large flap was raised from the left temporal region, extending over to the frontal, and turned down and sutured into the wound, so that this lining of skin was a substitute for the lost mucosa of the cheek. A flap from the skin

of the neck was then formed and drawn up so as to cover the raw surface exposed. For the purpose of supplying this enormous flap with additional blood supply a flap from the scalp was laid over the base of the pedicle and another one from behind. The scalp defects were filled in at once with Thiersch's skin grafts. The circulation of the inner flap was satisfactory, and the large wound healed almost throughout by primary intention.

MULTIPLE TUBERCULAR ABSCESES.

DR. SENN presented a man, forty-five years of age, who had been admitted to the Presbyterian Hospital with three large tubercular abscesses involving the left side of the chest. One of these ruptured spontaneously, and a fistulous opening communicated near the nipple, with a very large abscess cavity. Another abscess was found at the junction of the ribs with the cartilage near the sternum, and another to the left of the mammary line—three large, distinct tubercular abscesses, with no anatomical connection, as shown by the peroxide of hydrogen test. At operation the third, fourth, and fifth ribs were found to be the seat of tuberculosis. The reporter was obliged to resect the ribs in their entirety, a rule in practice to which there should be no exception, because tuberculosis of the ribs invariably means an antecedent tubercular perichondritis or a tubercular periostitis. Therefore, the tubercular product surrounding the ribs or perichondrium makes it necessary to use Koenig's incision, and to always resort to the resection of the rib in its entirety to reach the floor of the abscess, in order to follow the fistulous tracts which may communicate with other secondary tubercular foci.

In this extensive resection all of the large abscess cavities were scraped out and vigorously disinfected with peroxide of hydrogen, followed by a 3 per cent. solution of carbolic acid, and finally a 1 per cent. solution of iodine. Extensive primary drainage was instituted and continued for two or three days. Then the multiple wounds were sutured throughout, and ten days later all of these wounds had healed by primary intention.

ACUTE OSTEOMYELITIS.

DR. SENN presented a youth in whom a primary osteomyelitic focus had involved the internal tuberosity of the tibia. Although the disease was limited, the general symptoms were very

marked, all out of proportion to the size of the osteomyelitic focus. There was no tendency of the disease to extend to the shaft of the bone, but at a comparatively early stage, owing to the proximity of the osteomyelitic focus to the knee-joint, secondary synovitis set in, which unquestionably added to the acuity and intensity of the disease. A copious effusion formed, but after the removal of the osteomyelitic focus by early operative intervention, the synovitis soon subsided; the general symptoms became more mild, but in the course of a few weeks the patient complained of pain in the left elbow. The external condyle of the humerus was the seat of a secondary osteomyelitic process. The disease in the humerus pursued a very mild course. No swelling of any size made its appearance. Tenderness, however, remained for a number of weeks. He exposed this secondary osteomyelitic focus, relying almost entirely upon the point of tenderness, by a curved incision, with its convexity directed downward, reflected the flap up to near the joint, and with chisel and hammer found a deep-seated abscess in the bone. He scraped out this osteomyelitic cavity, resorted to thorough disinfection by pouring into it, first, peroxide of hydrogen, and afterwards using a 5 per cent. carbolic acid, dried the cavity, and packed it with decalcified bone chips, and obtained healing through by primary intention.

After having been absent from the hospital for a number of weeks, the patient presented himself again with a central osteomyelitis of the inferior maxilla.

CYSTS OF THE DUCTUS THYROGLOSSUS.

DR. SENN said that he had had to deal with three cases of cysts of the ductus thyroglossus in two weeks. The patients were all young subjects, eighteen to twenty-five years of age,—two females and one male. The cysts were comparatively small. They were located in the median line, between the thyroid cartilage and the base of the hyoid bone. The enlargement was slow; there were pain and swelling. The skin was movable in all of the cases over the surface of the swelling. Fluctuation was distinct. In all of them the cysts contained a white viscid substance, a little thicker in consistence than synovial fluid. The only operative procedure which promises a satisfactory result is excision. The slightest remnant of the epithelial lining remaining will invariably

give rise to prompt recurrence, so that excision must be practised with the utmost care. He succeeded in these cases in excising the cysts. In one the wall was thin, and he had to remove remnants of the cyst wall after he had removed the bulk of the swelling.

FIBROMA OF THE PERIOSTEUM.

DR. SENN presented a specimen of fibroma of the periosteum which had its starting-point from the periosteum of the second rib close to the cartilage. The tumor extended over the surrounding bony framework in mushroom-like manner and underneath the clavicle. The clinical history was somewhat obscure. The patient had a doubtful past. Very vigorous antisyphilitic treatment was at first resorted to without making any impression upon the size of the tumor or relieving the pain accompanying it. It was finally removed through a curved incision, with its convexity directed upward, and the flap reflected as far as the clavicle, thus laying bare freely the base of the tumor, which was found intimately attached to the periosteum of the second rib near the sternum. The tumor was very firm and smooth, and on making a section it cut almost like cartilage.

A second fibroma of the ribs, situated at the lower part of the scapula, he had removed recently from a woman, thirty years of age, who stated that she first noticed the tumor eighteen years ago. It was stationary for awhile, but gave rise to quite serious functional disturbance by fixation of the arm. On examination a tumor was found extending in the direction of the axillary space. He had great difficulty in laying this tumor bare. The surrounding muscles seemed to be implicated in the surface of the tumor. There was no encapsulation. Dull instruments were useless. By tedious dissection he laid the scapula bare up to near the neck, and then removed it with chain-saw.

VERRUCA SENILIS.

DR. SENN presented specimens removed from the face of a woman, seventy-one years of age, the subject of multiple senile warts or verruca senilis. The disease involved the malar eminence on both sides. There were a number of these warts scattered all over the face; those over the malar eminence were the seat of repeated irritations, and had undergone transformation

into epithelioma. Both of them had their starting-point in a pre-existing senile wart or verruca senilis.

GOUT SIMULATING MYOSITIS OSSIFICANS.

DR. SENN presented a colleague upon whom he had operated twice before, once for a diffuse septic inflammation involving the right arm and forearm, and a second time for appendicitis. For a number of months he had complained of a vague pain in the right shoulder. He regarded it as a rheumatic affection; but local and general treatment failed to give him any relief. The pain increased in severity, and the shoulder-joint almost completely lost its function. An X-ray photograph revealed no indication of any swelling, but Dr. Senn found at a point corresponding to about the middle of the base of the deltoid there was a limited area of tenderness. On examining the photograph there can be seen at the centre of the deltoid muscle a dark elongated spot. The shoulder-joint itself is normal. The reporter considered the case on the face of this photograph one of myositis ossificans. The dark island representing bone tissue in the deltoid as it appears entirely separate from the greater tuberosity of the humerus. Acting upon this diagnosis, he laid the deltoid muscle bare by a curved incision, reflected the flap upward, and found, to his utter astonishment, the deltoid absolutely normal. In palpating the deltoid, he found at a point corresponding to the outer side of the bicipital groove of the greater tuberosity a rather hard swelling; he separated the deltoid vertically by the use of the director and came down to a hard mass, not bone, but underneath the periosteum it appeared to be encapsulated. He incised and exposed a large mass of inorganic salt, sodium biurate. He scraped this out, and, to be sure he should make no mistake by leaving an undiscovered bone lesion, he chiselled away a little of the surface of the bone, which he found extremely dense. A process of condensation had taken place; the surface of the bone became compact at a point corresponding to this inorganic deposit. The diagnosis of gout now was plain.

LIPOMA ARBORESCENS OF THE KNEE.

DR. SENN said that in the last four weeks he had had two cases of lipoma arborescens. In one case the patient was a young

man, college student, about nineteen years of age, athlete, who had recently become incapacitated because of a weak knee-joint. Dr. Senn made externally a long incision, explored the joint, and found the synovial membrane preternaturally vascular, but had considerable difficulty in locating the mechanical cause of this temporary loss of function of the joint. Finally, in examining closely the lower recess of the synovial sac corresponding to the space between the tuberosity of the tibia and the patella, an unusual prominence, so that by a certain movement of the joint the swelling would insert itself between the two articular surfaces, he uncovered that part of the synovial sac and found underneath it a very diffuse lipoma. The capsule was sutured to the external wound and the joint immobilized. Healing throughout by primary intention followed, with satisfactory restoration of the function of the joint.

The second case was a more pronounced one. The patient was a young girl suffering from the same symptoms, with temporary derangement of the joint in walking, so as to make the knee-joint partially useless. There was found a typical lipoma *arborescens* involving the opposite side of the synovial sac, implicating the patella, and extending up to the upper recess. There was a large, diffuse intra-articular lipoma. The entire synovial surface was very vascular, thickened, and it looked like a typical case of tuberculosis, of course. But strangely, in both of the cases there was no hydrops. Here he resected the entire synovial sac, treated the wound in a similar manner as in the first case, and the patient is recovering very rapidly.

THE UNION OF UNUNITED FRACTURES OF THE NECK OF THE FEMUR BY OPEN OPERATION.

DR. LEONARD FREEMAN, of Denver, Colorado, read a paper (by invitation) with the above title, for which see page 561.

DR. NICHOLAS SENN said that the question of direct fixation of such fractures was not a new one. In the years 1882-83 he spent what little leisure time he had in a scientific study of the question. It was up to that time doubted whether union by bone under any circumstances could be obtained in cases of intracapsular fracture of the neck of the femur, and he presumed this was the anatomical seat (intracapsular) in Dr. Freeman's case. He produced this

fracture on the lower animals by drilling the neck of the femur in different directions and fracturing it, satisfying himself in each instance that he had not only produced a fracture, but it was inside the capsule. He treated twenty-three of the animals thus experimented upon by the methods of treatment then in vogue. He entertained the hope he would be able to prove that that method of treatment would succeed in obtaining bony union in cases in which the line of fracture was within the capsule of the joint. In all of these twenty-three cases he failed. He nearly despaired that he would be able to prove his position assumed at that time, that bony union was possible, and hence he had to resort to direct methods of fixation. Breaking the bone in a similar manner, he resorted to the use of ivory bone pegs and metallic nails. In ten experiments following twenty-three failures, in nearly all of them he could demonstrate that he had obtained bony union. He found, however, afterwards practically that the same results in the human subject were obtainable by indirect methods of fixation by bringing the fractured surfaces in contact and holding them there by lateral pressure by a splint of his own device. He had treated since that time fifteen or twenty cases, and in the majority of them he could demonstrate not only excellent functional results, but union by bony consolidation.

Dr. Senn said that, judging from the osteoporotic neck of the trochanter in Dr. Freeman's case, and the amount of shortening in the case, as well as the incomplete functional repair, he seriously doubted whether the bone had united by consolidation. It was always a question whether the method of fixation had anything to do in effecting such an ideal result. He doubted whether an ivory bone-nail, or any kind of nail, in such osteoporotic bone would hold the fragments in apposition. He did not think extension by weight and pulley could add anything to the functional result, because in aiming at bony union in cases of this kind it became absolutely essential to resort to immediate reduction at once and hold the fractured surfaces in mutual uninterrupted contact, something that could not be accomplished by extension with weight and pulley. He should imagine, as an additional mechanical aid, it would be preferable in cases of this kind not to rely on nailing the fragments, but to combine it with immediate fixation with a well-fitting plastic splint, with the limb slightly abducted, securing for the seat of fracture the necessary

degree of rest. He was sure a number of such operations had been performed, but the results had not been published because they were disastrous. It was necessary, in operating in such an important locality as the hip-joint, to see to it that, if it became necessary to vivify the fractured surfaces through an anterior incision to bring the parts in such a condition, the surgeon could close the wound throughout and obtain healing by primary intention without the dangers incident to drainage. The surgeon must be conservative in interfering with old fractures of the neck of the femur, because in some cases of non-union the functional results were excellent. It became a serious responsibility when one converted a subcutaneous fracture of the neck of the femur into an open wound, because surgeons had not reached that certainty in asepsis which entitled them to do so without making a very careful selection of cases. He questioned very much whether at present surgeons were warranted in resorting to the open treatment.

DR. A. J. OCHSNER referred to a paper read by Dr. Ruth before the American Medical Association in June, 1901. At that time Ruth showed a femur which had been removed from a patient who had been treated some years before. The specimen which Ruth showed seemed so satisfactory that some of the critics believed that the bone had not been fractured because it had united so well. However, Ruth gave measurements before and after the fracture, and to the speaker's mind the line of union was plain. He had followed the method described by Ruth after returning home, and had since used it in sixteen cases. The ages of these patients were 30, 37, 37, 43, 47, 53, 54, 57, 58, 60, 62, 66, 76, 78, 79, and 80. Two of them died, one of diabetic coma and the other one of exhaustion. There was union in all of them. The amount of shortening in all of them was less than three centimetres, which corresponded to the results obtained by Dr. Ruth and the observations he had made in a number of cases.

The principle upon which Ruth's treatment was based had been published and illustrated fully in the *Journal of the American Medical Association*, so that it was not necessary for him to describe it. He depended upon extension which was longitudinal, downward, and extension upward and externally, so as to produce internal rotation of the entire extremity and to elevate the great trochanter and overcome the external rotators. In all of the

cases the patient was anæsthetized upon admission to the hospital in order to confirm the diagnosis without giving too much pain. The extremity was placed in the corrected position; measurements were made before and after anæsthesia, and before and after the correction. The extremity was placed in the corrected position, and then the rubber adhesive plaster applied as directed by Ruth. This method was first introduced many years ago by Dr. Maxwell, of Keokuk, a colleague of Dr. Ruth's. Extension was applied downward; then a second broad rubber adhesive plaster was applied from a point on the anterior inner surface as high up as possible around the posterior surface of the thigh and out; and the speaker made use of a little device which consisted of adjustable posts made for weight and pulley extension, applied to the side as well as to the foot of the bed. He had found this very convenient. One of these frames was placed opposite the greater trochanter a little above it, and a weight varying from four to twelve pounds was attached to this pulley, which caused internal rotation, and another weight of eight to twenty-four pounds was attached to a second pulley at the foot of the bed, causing extension.

One of the beneficial results of the treatment was, that whereas formerly, when extension was made in a longitudinal direction, and a posterior or lateral splint applied, there was pain always, with this method but one of the sixteen patients had complained of severe pain, and this patient was so very hysterical that it was doubtful whether she had pain or not. It seems as though the use of this method would greatly reduce the number of ununited fractures of the hip.

Personally, he had made the open operation but once in a case in which the patient had a very painful hip, with ununited fracture. In this case he used two Parkhill screws through the neck and into the head; but the result was not satisfactory, and he had to remove the head afterwards. Union was primary, but there was so much callus as to cause pain. Possibly the traumatism was too great, due to the use of two screws.

DR. ALEXANDER HUGH FERGUSON said he had had three cases of ununited fractures of the neck of the femur upon which he had operated.

The first was a man, fifty years of age, and the fracture was of three years' standing. Operation was done on account of pain

and lack of function. Patient was not able to do his work as a farmer. The head of the bone was removed through a lateral incision. Result was excellent. Patient was now able to work. There were nearly two inches of shortening.

The second case was a woman, with fracture of two years' standing. She was sixty years of age, and fractured her hip while riding a bicycle, having fallen upon the hard pavement. Operation was undertaken on account of inability to use the limb and pain. He removed the head of the bone, and obtained good functional result, with shortening of about an inch and a half. She was again able to ride a bicycle. He was surprised in this case at the soundness of the head of the bone. It was firm and hard. He felt sure that if he had brad-holed the seat of fracture and put an ivory peg through and fixed it with plaster of Paris, or something else, he would have gotten bony union.

The third case was a woman, twenty-six years of age, who was at present in the hospital, but about ready to leave. She was able to rest the leg on a chair and had good function in seven weeks. He removed the head of the bone on account of ankylosis of its head in the acetabulum. There was also a fracture of the head of the bone towards the acetabulum, which caused firm ankylosis at the acetabulum, and he thought, if he had fixed the neck with the rest of the bone, there would still be ankylosis.

His experience in these three cases had induced him to favor the open operation. His experience with non-union in other bones, where the surgeon brad-holed and opened down into them, wired the fragments, and put all sorts of rings or clamps around them, was that union did not take place even then, and the surgeon had to resort to the open method, put in live bone chips, or pack it with iodoform gauze, leave the cavity open, and let it heal from the bottom, and thus obtain firm bony union. He mentioned a case of fracture of the radius which he had last year, in which he resorted to the open method successfully. Other surgeons had used this method with success. He did not see why surgeons could not pursue the open method in connection with fractures of the neck of the femur in selected cases.

DR. FREEMAN agreed with Drs. Senn and Ochsner that in recent fractures of the neck of the femur the open operation should be avoided; but in those fractures which were ununited, if one wished to get union, it was necessary to resort to the open

method. He did not think there was as much danger attending the open operation as Dr. Senn had intimated. Surgeons should use those measures which they thought under the circumstances would give the best results; whether it be the removal of the head of the bone, as suggested by Dr. Ferguson; whether the use of pegs of various kinds or wiring, or some such apparatus as Dr. Senn had used so successfully in recent fractures of the neck of the femur. There was not as much danger from the use of screws as Dr. Senn had led us to believe. Dr. Parkhill had used his clamp in fifteen or twenty ununited fractures of various kinds without bad results. Those who had employed the bone-clamp had observed that if infection did take place after its use, which was seldom, it did not occur for many days after operation had been done. The infection, if it occurred, would creep down slowly from the skin along the track of the screw, and by this time the hip-joint itself would be walled off from the screw track altogether by new tissue, lymph, etc. Hence infection would be along the screw into the cancellous tissue alone, as in his own case and that of Dr. Davis. He believed the stimulation of the screw through the bone was a great incentive to bony union. He thought Parkhill had fully proven in his reported cases in the *ANNALS OF SURGERY* that when reparative action failed by ordinary measures (wiring, etc.), that union was obtained at once by the use of his clamp. In no single instance did Parkhill fail with his clamp, nor has any one else to his knowledge who had used it.